

## **REFERENCE ELECTRODE HAVING A FLOWING LIQUID JUNCTION AND FILTER MEMBERS**

### **Abstract**

A flowing junction reference electrode comprising a liquid junction member matched with a filter. The junction member and the filter are situated between a reference electrolyte solution and a sample solution. An array of nanochannels spans the junction member and provides fluid communication between the electrolyte solution and the sample solution. The filter is configured to allow a greater flux of electrolyte than that associated with the junction member. Preferably, the number of pores is greater than the number of nanochannels. The filter is preferably configured to have pores with an inner diameter that is the same or less than the inner diameter of the nanochannels. In some embodiment, the resistance of the filter is made lower relative to the resistance of the junction member by selecting suitable length, number, and inner diameter size for the pores of the filter relative to the nanochannels of the junction member.

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